patients for one year--that could end up being 10 patients--or do we want to set a minimum number of patients, or leave that up to FDA?

DR. BLUMENSTEIN: Or do we want to set a statistical criterion, say, within 10 percent of previously observed success rate--

DR. TRACY: Our problem is we don't have a previously observed success rate.

DR. BLUMENSTEIN: Well, we had from the data that was presented to us.

DR. TRACY: From the data presented?

DR. BLUMENSTEIN: Right, and enough patients to show.

DR. TRACY: Have we given enough sense to the FDA, the essence of what this post-market surveillance is, or do we need to hammer out the details of the post-market surveillance at this point?

DR. ZUCKERMAN: Well, we need the general guidelines, which would be, perhaps if I can say, to construct a study that would demonstrate with some statistical assurance that safety data are in the same range as those data observed in the U.S. IDE trial, so that we are more sure of generalizability of results. Is this the main

rationale?

DR. FERGUSON: Yes. I will vote for what he said.

DR. TRACY: What he said. Second on what he said. Does that meet the essence of what we are looking for here?

DR. BLUMENSTEIN: What he said is good.

DR. TRACY: Then, can I just ask each member to go around the table and indicate whether you approve this condition.

Dr. Weinberger.

DR. WEINBERGER: I approve.

DR. TRACY: Dr. Yancy.

DR. YANCY: Yes.

DR. TRACY: Dr. White.

DR. WHITE: Yes.

DR. TRACY: Dr. Hirshfeld.

DR. HIRSHFELD: Yes.

DR. TRACY: Dr. Kato.

DR. KATO: Yes.

DR. FERGUSON: Yes.

DR. TRACY: Dr. Krucoff.

DR. KRUCOFF: Abstain.

DR. TRACY: Abstain.

Dr. Maisel.

DR. MAISEL: Yes.

DR. BLUMENSTEIN: Yes.

DR. BRIDGES: Yes.

DR. AZIZ: Yes.

DR. TRACY: All in favor with one abstention.

May I have another condition for the PMA?

Dr. Yancy.

DR. YANCY: I think the statement of wanting this technology with the transplant center is important enough that it is a condition in my mind.

DR. TRACY: Can you be a little bit more specific on that? Are you saying that this device should only be in place in centers that are performing cardiac transplantation?

DR. YANCY: That's correct.

DR. KATO: I would second that.

DR. TRACY: Any discussion on that?

DR. AZIZ: Initially, I think that is okay, but you could see in the future, for example, you could have centers that could have a link with the transplant center where you could put it in, and then the patient could be transferred to a transplant center, so I don't think that I would

exclude that.

You could have a patient that had a gunshot wound or something--I am just making up a case scenario--the patient clearly will be transplanted, but he could be transported, I mean like a bridge to a bridge in a sense, or a bridge to transplantation, so provided the proviso is that the patient will eventually be transplanted.

I think that is something that we should think about.

DR. TRACY: Dr. Maisel.

DR. MAISEL: I am comfortable with that terminology. I mean I don't know where a transplant center is defined or whether we head down that slippery slope. I would feel comfortable simply saying it can only be implanted by physicians and at places that are trained in its proper use.

DR. AZIZ: But with a view that eventually that patient will be transplanted, the patient receives it.

DR. MAISEL: I don't think we can sit here and predict every eventuality of this device five years from now, so could I imagine a scenario once we are more comfortable with the use of the device,

that it may not be implanted at an actual hospital where they transplant hearts? I could imagine that happening.

DR. TRACY: Dr. Bridges, any comments on that?

DR. BRIDGES: I think that the indication that it is being used as a bridge to transplant in patients with imminent risk of death, with severe biventricular failure, is sufficient to indicate that it ought to be put in--I mean if it is being put in as a bridge to transplant, then, the reasonable expectation would be that it is either in a transplant center or--I am not sure we need to specify it further.

DR. TRACY: So, we have heard some discussion about this. The motion on the table, though, is that the device be implanted in centers that are performing transplantation. I think we should vote on that particular condition.

Dr. Weinberger.

DR. WEINBERGER: I agree.

DR. TRACY: Dr. Yancy.

DR. YANCY: Yes.

DR. TRACY: Dr. White.

DR. WHITE: Yes.

DR. TRACY: Dr. Hirshfeld.

DR. HIRSHFELD: Yes.

DR. KATO: Yes.

DR. TRACY: Dr. Ferguson.

DR. FERGUSON: Disagree.

DR. TRACY: Dr. Krucoff.

DR. KRUCOFF: Abstain.

DR. TRACY: Dr. Maisel.

DR. MAISEL: I disagree.

DR. BLUMENSTEIN: I disagree.

DR. TRACY: Dr. Bridges.

DR. BRIDGES: No.

DR. AZIZ: I disagree.

DR. TRACY: So, the vote is completely split, 5 for, 5 against, and 1 abstention, so I take it this does not pass. I have to break the vote.

I can see both sides of the argument. I think as the technology exists at this point in time, it is better at a center that is performing transplants, so I would favor this amendment, so it swings back over to the amendment being--

MR. MORTON: Can I ask, is that addressed in the labeling? In the device labeling, in the training and in the labeling, were we not telling

where and how this should be used? Was it not implicit in that?

DR. TRACY: No necessarily under the conditions that have been raised by Dr. Aziz and others, that does not necessarily preclude a trained transplant surgeon and a trained team moving someplace else and implanting the device, so the issue is really who is responsible for this thing, and it does not clearly state it in the labeling.

I think at this point in the technology, which is really in its infancy, my opinion is that it be used in centers that are performing transplantation. Therefore, I think the amendment passes.

Any additional conditions?

DR. BRIDGES: Does the physician training, does that need to be specifically introduced as a condition, or is that implied by our previous discussions?

DR. TRACY: Anything that we have discussed here that we feel, such as the anticoagulation issues, other issues that we have brought up regarding in particular the labeling, this is our chance to get it on the record here, so

if there is a condition you would like to propose, then, this is the time to do it. I would remind people about the conditions that we discussed in the labeling.

Dr. White.

DR. WHITE: The one about the anticoagulation, the absolute contraindication if the patient is unable to be anticoagulated.

DR. TRACY: Okay. Absolute contraindication to implantation would be a patient who cannot be anticoagulated.

A second on that? A second has been heard.

Discussion on that?

[No response.]

DR. TRACY: Then, let's take a vote on that.

Dr. Weinberger.

DR. WEINBERGER: Yes.

DR. TRACY: Dr. Yancy.

DR. YANCY: Yes.

DR. TRACY: Dr. White.

DR. WHITE: Yes.

DR. TRACY: Dr. Hirshfeld.

DR. HIRSHFELD: Yes.

DR. TRACY: Dr. Kato.

DR. KATO: Yes.

DR. TRACY: Dr. Ferguson.

DR. FERGUSON: Yes.

DR. TRACY: Dr. Krucoff.

DR. KRUCOFF: Abstain.

DR. TRACY: Dr. Maisel.

DR. MAISEL: Yes.

DR. TRACY: Dr. Blumenstein.

DR. BLUMENSTEIN: Yes.

DR. TRACY: Dr. Bridges.

DR. BRIDGES: Yes.

DR. TRACY: Dr. Aziz.

DR. AZIZ: Yes.

DR. TRACY: All are in favor of that with one abstention.

Are there any additional conditions that the panel would like to raise?

Dr. Kato.

DR. KATO: The labeling, I think the indication was irreversible biventricular cardiac dysfunction, at risk for immediate death, and not a candidate for univentricular support device.

DR. TRACY: Do we have a second on that?

DR. AZIZ: Second.

DR. TRACY: Dr. Aziz, discussion regarding that?

DR. BRIDGES: Would you restate that, Dr. Kato?

DR. KATO: Irreversible biventricular cardiac dysfunction, at risk of immediate death, and not a candidate for univentricular support device.

DR. BRIDGES: If you say irreversible biventricular failure, doesn't that exclude them being a candidate for a univentricular support device? You said they have to have biventricular failure and not be a candidate for--what group of patients would have severe biventricular failure and be candidates for a univentricular device?

DR. KATO: These were actually notes taken from our previous discussion. I don't know specifically who mentioned that, in fact, I thought it was you.

DR. BRIDGES: What I actually said was biventricular support or who are not candidates for univentricular support.

In other words, you could have univentricular failure and have arrhythmias, for example, or have univentricular failure and have a

VSD, in which case you would be a candidate for this device. So, it was "or," not "and."

DR. TRACY: Let me refresh everybody's memory on that. We had a lengthy discussion on this, and I think that the final consensus at that point, it may be a shifting target, was that we would leave the indication alone in its fairly perhaps broad or narrow statement, depending on how you look at it, but that we would like, as one of the conditions, there to be a better statement in the labeling as to who was actually included in this study.

That was the point at which we had left that, not to change the indication, but to address it in the labeling.

DR. YANCY: And when we address it in the labeling, where does it go?

DR. TRACY: If somebody chooses to make that as an additional condition, the condition would be that an additional section would be added, or I believe there is a section there entitled something like study--I would have to look back through here.

So, the Summary of Clinical Study would be altered to reflect more clearly who the patients

were that were enrolled in the study, and not alter the indication.

DR. HIRSHFELD: I will second that.

DR. TRACY: We have to vote on the motion that is on the table, which is to alter the indication to change the indication to biventricular failure who are not otherwise candidates for univentricular assist devices.

That is the motion that is on the table at this point that we need to vote on. It has been proposed and seconded.

Additional discussion regarding that motion?

DR. HIRSHFELD: I am opposed to the statement that the patient has to not be a candidate for a univentricular support device, because I don't think we know who those people are.

DR. TRACY: I think that is the point at which we came a little bit earlier, so if there is no additional discussion on that, then, we need to vote on this particular condition.

DR. WEINBERGER: No.

DR. TRACY: Dr. Yancy.

DR. YANCY: No.

DR. TRACY: Dr. White.

DR. WHITE: No.

DR. TRACY: Dr. Hirshfeld.

DR. HIRSHFELD: No.

DR. TRACY: Dr. Kato.

DR. KATO: No.

DR. TRACY: Dr. Ferguson.

DR. FERGUSON: No.

DR. TRACY: Dr. Krucoff.

DR. KRUCOFF: Abstain.

DR. TRACY: Dr. Maisel.

DR. MAISEL: No.

DR. TRACY: Dr. Blumenstein.

DR. BLUMENSTEIN: No.

DR. TRACY: Dr. Bridges.

DR. BRIDGES: Just as a point of order, was that seconded, that motion?

DR. TRACY: It was seconded.

DR. BRIDGES: No.

DR. TRACY: Dr. Aziz.

DR. AZIZ: Yes.

DR. TRACY: We have then, if I am counting right, 6 no's, 1 abstention, 1 yes. I counted wrong. I know that there is 1 abstention and 1 yes. And I didn't vote. 8 no's, 1 abstention, 1 yes.

DR. TRACY: Let me ask, are there any additional conditions, and I want to remind the panel about the issue regarding the labeling and our need to be more clear in the labeling regarding patient population, et cetera.

DR. FERGUSON: Page 4 in the labeling, 3.0. We asked for a change there to flesh out what the contraindications were other than just the bald faced body surface area.

DR. TRACY: We have already addressed the anticoagulation issue on the contraindications, but we wanted to have the contraindication be fleshed out a bit to state that the device is not to be used in patients in whom it won't fit, and then within the labeling, to give a more clear definition of who it would fit in.

So, the motion is to remove the specific 1.7 meter squared contraindication, and simply state it as patients in whom the device will not fit.

DR. WHITE: If we use the language on the next page, on No. 6 under warnings, we could just move that warning up.

DR. TRACY: Okay. Do not use this device if the implantable artificial ventricles cannot fit

in the chest area vacated by the natural ventricles. Inferior vena cava, and left pulmonary venous compression are possible consequences. So, change that to the contraindications?

DR. FERGUSON: I would amend it, that the inferior vena cava and pulmonary venous compression is a warning separate from the size.

DR. TRACY: So, the condition then is to change the contraindication to the first sentence, don't use this device if it cannot fit in the chest area vacated by the natural ventricles.

PARTICIPANT: Second.

DR. TRACY: Can we take a vote on that?

Dr. Weinberger.

DR. WEINBERGER: Agree.

DR. TRACY: Dr. Yancy.

DR. YANCY: Agree.

DR. TRACY: Dr. White.

DR. WHITE: Yes.

DR. TRACY: Dr. Hirshfeld.

DR. HIRSHFELD: Yes.

DR. TRACY: Dr. Kato.

DR. KATO: Yes.

DR. TRACY: Dr. Ferguson.

DR. FERGUSON: Yes.

DR. TRACY: Dr. Krucoff.

DR. KRUCOFF: Abstain.

DR. TRACY: Dr. Maisel.

DR. MAISEL: Yes.

DR. TRACY: Dr. Blumenstein.

DR. BLUMENSTEIN: Yes.

DR. TRACY: Dr. Bridges.

DR. BRIDGES: Yes.

DR. TRACY: Dr. Aziz.

DR. AZIZ: Yes.

DR. TRACY: Ten in favor of that amendment on the contraindications and 1 abstention.

Are there any additional conditions?

DR. BRIDGES: I have a question, discussion, possibly a condition, about antiplatelet agents. We have talked about a contraindication being a patient who is not a candidate for anticoagulation.

Should we address patients who are not candidates for antiplatelet therapy? There are a few patients who fall into that category, such as patients with thrombocytopenia, et cetera.

The question or I guess I could put it in as a motion for some discussion is we add a contraindication for patients who are not

candidates for antiplatelet therapy, since antiplatelet therapy was part of the trial.

That is a different issue than anticoagulation per se.

DR. TRACY: Are you proposing a contraindication be patients who cannot receive antiplatelet therapy?

DR. BRIDGES: Yes.

DR. AZIZ: Should we ask the sponsor, because the data here doesn't help us really make that statement, if that is okay to ask them to step up?

DR. TRACY: Can we ask the sponsor for a little clarification on that before we move forward with this condition? Dr. Copeland.

DR. COPELAND: What would the question be?

DR. TRACY: Do you have any information regarding antiplatelet use, is it a contraindication to implanting this device in patients who cannot receive antiplatelet therapy?

DR. COPELAND: I am not sure it would be.

DR. FERGUSON: Do you have any experience--

DR. COPELAND: No, I just don't know.

DR. TRACY: Antiplatelet therapy was not

part of the treatment during use of the device?

DR. COPELAND: Oh, yes, it is. Presumably, these would be patients that had thrombocytopenias or something, and they might--you know, they might be adequately treated with an anticoagulant alone without the necessity of even thinking about treating them with an antiplatelet agent. They might actually be reasonable candidates. I mean obviously, this would be a small population of patients.

DR. TRACY: I think we don't have the information specifically on that, but it may be something that would be reasonable to think about in terms of a warning that the safety of this device has not been established in patients who cannot receive antiplatelet therapy. That might be a way of raising that concern.

Dr. Hirshfeld.

DR. HIRSHFELD: I was going to propose another strategy to deal with the issue, and that was just to have a warning that the safe use of this device requires assiduous attention to, and control of, monitoring of antithrombotic and antiplatelet therapy.

DR. TRACY: Which was one of the warnings

that you had raised previously.

DR. HIRSHFELD: Right.

DR. TRACY: And I think that does address both the antiplatelet and need to monitor anticoagulation. So, that, then, is your proposed condition.

DR. HIRSHFELD: Words to that effect.

DR. TRACY: Words to that effect.

A second on Dr. Hirshfeld's--

Second? Okay. Let's take a vote on that condition.

DR. WEINBERGER: Agree.

DR. TRACY: Dr. Yancy.

DR. YANCY: Agree.

DR. TRACY: Dr. White.

DR. WHITE: Agree.

DR. TRACY: Dr. Hirshfeld.

DR. HIRSHFELD: Agree.

DR. TRACY: Dr. Kato.

DR. KATO: Yes.

DR. TRACY: Dr. Ferguson.

DR. FERGUSON: Yes.

DR. TRACY: Dr. Krucoff.

DR. MAISEL: I will abstain on his behalf.

DR. TRACY: Oh, you are abstaining on his

behalf.

[Laughter.]

DR. TRACY: I wasn't watching.

Dr. Maisel.

DR. MAISEL: I agree.

DR. TRACY: Dr. Blumenstein.

DR. BLUMENSTEIN: Agree.

DR. TRACY: Dr. Bridges.

DR. BRIDGES: Yes.

DR. TRACY: Dr. Aziz.

DR. AZIZ: I agree.

DR. TRACY: 11 in favor.

Are there any additional conditions that the panel wants to raise?

Dr. Maisel.

DR. MAISEL: I would like to raise the condition that the first case for each implanting surgeon is proctored.

DR. TRACY: Okay.

Second? Okay.

Any discussion? Dr. Hirshfeld.

DR. HIRSHFELD: I would just wonder about the practicality of doing this because oftentimes the circumstances come up with a patient crashing and burning, and it is pretty hard to get a proctor

on three hours' notice.

DR. MAISEL: Maybe it should be worded, such that the surgeon can go somewhere and observe an implant, and that would also be satisfactory. There may be 24 or 48 hours of lead time, such that they would be able to fly somewhere and observe an implant.

DR. TRACY: I am sorry, are you amending that to say that--who is flying where?

[Laughter.]

DR. MAISEL: I guess the point of my suggestion was that a physician, a surgeon either implant under proctored conditions, or I think it would be satisfactory for them to directly observe an implant in a human, whether that is their own institution or someone else's.

DR. WEINBERGER: I don't think that that is what we had in mind when we discussed this earlier. When this came up earlier and we were discussing what sort of training would be necessary, we sort of concluded, at least my understanding was that we wanted one proctored case by the trainee surgeon being observed by an experienced surgeon.

It may be that the case will be

problematic, but if that person needs a bridge to the bridge, that may be what has to happen.

DR. BRIDGES: I have a question. Should we be really addressing the entire proposed physician training program in this condition? I mean we are dealing with subsets of the proposed physician training with this condition.

Should the condition be that the entire proposed physician's training program is required, perhaps with some changes, is that what we need to do?

DR. TRACY: We can do this any way you like. If the proposed training program looks appropriate with the exception of requiring some proctoring on the first implant, then, that is the only condition we need to discuss.

If the entire thing needs changing, then, we can address that globally, but the condition that has been raised at this point is whether or not that first case needs to be proctored, and the discussion surrounding that is that there may be some logistic problems with that in the middle of the night trying to find a proctor to come 300 miles.

DR. BRIDGES: I think Dr. Hirshfeld's

point is well taken, that the idea that it had to be proctored was a good one, but I don't think we were really thinking of what he brought up, which is that these cases come up on weekends, in the middle of the night when you can't get ahold of anybody.

So, I think maybe another way of doing it would be the condition that we require the proposed physician training program as outlined, however, modify it, such that a surgeon either will have his first implantation proctored or will have viewed an implantation at another center.

That way, a surgeon can get himself trained prospectively, so that he is ready for the middle of the night thing. If you don't do that, then, you can't put it in unless somebody is available to proctor it.

DR. TRACY: So, that would be an alternative proposal, but at this point, let's vote on the condition that is on the table.

DR. WHITE: Could we just hear from a surgeon? I would like to hear from the surgeons about this, because the real question is I am not sure what the relative percentage of patients that are done on an emergent basis are.

It clearly seems like it is a better idea to have your hands in your own operating room to do this the first time, so what do you think?

DR. AZIZ: I think you are right. I think particularly if it's an elective or if you have, let's say, a day or two, it would be nice to have somebody there to prevent the vena cava kinking and things of that nature.

Obviously, if it's an emergent situation, and you are forced to do it, then, that is a different issue. Then, you would do it anyway, I think you should be allowed to do it. So, if the time permits, you should really have somebody I think help proctor you or be there.

DR. TRACY: I am not sure, did that help you? Okay. It doesn't help me much either. I think that the reality is that things happen in unforeseen ways, but we have the condition on the table here. We can come back and address it with a different proposal, but I think we should at this point vote on this condition, which states that the first case must be proctored.

Dr. Weinberger.

DR. WEINBERGER: Yes.

DR. TRACY: Dr. Yancy.

DR. YANCY: No.

DR. TRACY: Dr. White.

DR. WHITE: Abstain.

DR. TRACY: Dr. Hirshfeld.

DR. HIRSHFELD: No.

DR. TRACY: Dr. Kato.

DR. KATO: No.

DR. TRACY: Dr. Ferguson.

DR. FERGUSON: No.

DR. TRACY: Dr. Krucoff.

DR. KRUCOFF: Abstain.

DR. TRACY: Dr. Maisel.

DR. MAISEL: No.

DR. TRACY: Dr. Blumenstein.

DR. BLUMENSTEIN: Yes.

DR. TRACY: Dr. Bridges.

DR. BRIDGES: No.

DR. TRACY: Dr. Aziz.

DR. AZIZ: Abstain.

DR. TRACY: So, that particular iteration of the motion does not pass.

Do we have another motion for a condition? Let me remind the panel that we also wanted the training program, the title of the training program to reflect that it is more than the surgeon who is

being trained in this procedure, so whoever makes the next motion keep that in mind.

DR. YANCY: I guess as a point of clarification, if we have already made that statement and given the FDA a directive, do we have to readdress that as a condition? My assumption was that conditions were at a higher threshold of mandate and concern.

DR. ZUCKERMAN: That is correct.

DR. TRACY: What is correct?

DR. ZUCKERMAN: That you don't necessarily need to make that a condition of approval.

DR. TRACY: If we feel that, in their infinite wisdom, the FDA and the sponsor will clarify that, that is fine.

Any additional high-threshold issues that need to be addressed here? I don't think we have resolved the issue of proctoring entirely here.

Dr. Bridges or others? Dr. Maisel.

DR. MAISEL: Let me try again. That the first case either be proctored or that the surgeon observe a live case either at his own institution or elsewhere.

DR. TRACY: Again, the only difference from what the proposed training is, is that we are

requesting that it be mandatory rather than optional.

Is there a second on that?

DR. FERGUSON: That doesn't look at the total training group, that is the problem it seems to me. In other words, if a surgeon elects after he has been approved, done his experimental work, and so forth, he could go to another institution and watch, you know, Dr. Copeland put one of these in, but his whole team is not going with him unless you specify that.

DR. WHITE: I would like to ask the surgeons if they think that there is an incremental benefit to going somewhere and watching an operation that they can't get from a videotape that has been edited to show them--I mean is there a benefit to going and standing in an operating room if they are not going to cut and sew?

DR. BRIDGES: Yes.

DR. TRACY: For Dr. Ferguson, I don't think that proposing that the surgeon either travel to a center or have somebody travel to your center changes the requirement that the entire team be trained as is stated there.

We do not yet have a second on this

proposal.

DR. HIRSHFELD: I am sorry. What are we proposing?

DR. TRACY: The proposed condition is that--let me see if I can state it clearly--for the surgical proctor, SynCardia will maintain Centers of Excellence where surgeons will view an implementation, or alternatively, a proctor will attend the first implant, so making it mandatory, on page 73, either making it mandatory for the new surgeon to go to a Center of Excellence or for a proctor to come to the new implant site.

DR. WHITE: So, if you say something that says that prior to an institution's first implant, there will either be a proctor or the surgeon will visit, I think. That's what we are trying to say is that before somebody takes one on themselves--

DR. TRACY: Before the first solo implant, right, yes, that is the essence of the thing.

DR. HIRSHFELD: Another alternative would be to require the condition of initial shipping of the device to an institution, that the surgeon at that institution has to have completed the animal experience and has to have traveled to observe a human implant.

DR. KATO: I would like to add that the phrase, not only surgeon, but surgeon and their teams have to travel, because I think that this is really a team approach. There are a lot of complicated parts, and not only the surgeon has to be comfortable with it, but the circulating nurses and the scrub nurse has to be fully aware of what is going on.

DR. YANCY: Do we really want to mandate travel? Practically speaking, it is the same problem that John pointed out except the reverse logic, because now the team is on a minute's notice traveling who knows how far.

DR. KATO: I think they have to travel to get that experience. I think that is what we were talking about before, right?

DR. TRACY: Within the proposed training program, the team is to be trained. The question is does the entire team need to travel at 3 o'clock in the morning 300 miles to the Center of Excellence or just does the surgeon.

DR. KATO: The proctoring team or the proctoring surgeon, that is what you are saying.

DR. TRACY: I am reminding the group I don't think we have a second on this thing, but we

are proposing that either someone from the Center of Excellence comes to your center and watches you do your first case, or you go to the Center of Excellence and watch a case being performed on a human.

DR. WHITE: And this is in addition to all the other animal work and the other training.

DR. TRACY: In addition to all the other things.

DR. WHITE: I think that I am pretty happy that the team is getting trained on the animal and they understand the machine. It's the surgeon's facility with the device the first time.

DR. TRACY: Right. So, I think we have to be careful how much travel we--

DR. FERGUSON: Is there a motion on the floor?

DR. TRACY: There is a motion that has not been seconded yet.

DR. FERGUSON: What was that motion again?

DR. TRACY: The motion is that either the implanting surgeon, in addition to all the other training that is stated in the proposed training program, either the new implanting surgeon will travel to a Center of Excellence to observe a case,

or a proctor from the Center of Excellence will come to the new site to observe the first implant performed at the new site.

DR. FERGUSON: Second.

DR. TRACY: We have now a second on that motion.

Any additional discussion?

DR. BRIDGES: Clarification. I don't want to belabor this, but what if you are a surgeon at your site, and another surgeon at your site has traveled and observed and/or implanted at your site, I don't think you need to go to another center. I think it is sufficient for you to see one at your own center.

So, I guess one way of putting that is that the first implantation at a given center--somehow or other we have got to say this--but every surgeon at that center doesn't then need to go someplace else to see one.

DR. TRACY: I think there is wisdom in that.

Dr. Maisel.

DR. MAISEL: I was just going to say once someone implants one, they could be a proctor would be a way around that problem.

DR. TRACY: Do we have to make that a separate motion, or can we amend our motion before we vote on it?

MS. WOOD: Correct me if I am wrong, but the second has to withdraw before the motion can be amended, isn't that correct?

DR. TRACY: Dr. Ferguson?

DR. FERGUSON: I will withdraw.

DR. TRACY: So, we want to amend our condition, so that either the new surgeon travels to a site for training, or the training site sends a surgeon to the new center, however, once a surgeon at the new center is trained, that can be passed on to additional surgeons at that center without further travel being involved. That is the amended proposal.

DR. FERGUSON: That sounds cumbersome. The thing we want to do is to make certain, either at home or away, he sees one implantation in a human being. That is what we are after.

DR. TRACY: That's right, but then that knowledge can be transferred on, Dr. Bridges can then teach Dr. Aziz without Dr. Aziz also having to travel.

DR. FERGUSON: Right. But I mean that's

implicit, if he sees one at home, then, that counts, doesn't it?

DR. TRACY: So, then the newly trained surgeon can then proctor at his or her home institution.

DR. BRIDGES: Surgeons will either view an implantation at a Center of Excellence or at their own institution--

DR. TRACY: I think that the FDA can probably figure out how to word this. You know what we mean to say.

DR. ZUCKERMAN: That's right.

DR. TRACY: We know what we mean to say, but we just can't say it.

DR. BRIDGES: Okay. I second the motion whatever it is we are trying to say.

[Laughter.]

DR. TRACY: Is that all right with the FDA?

DR. ZUCKERMAN: Yes.

DR. TRACY: Dr. Weinberger.

DR. WEINBERGER: Yes.

DR. TRACY: Dr. Yancy.

DR. YANCY: Yes, but I hate seconding something that I don't know what it is.

DR. TRACY: Dr. White.

DR. WHITE: Yes.

DR. TRACY: Dr. Hirshfeld.

DR. HIRSHFELD: Yes.

DR. TRACY: Dr. Kato.

DR. KATO: Yes.

DR. TRACY: Dr. Ferguson.

DR. FERGUSON: Yes.

DR. TRACY: Dr. Krucoff.

DR. KRUCOFF: Abstain.

DR. TRACY: Dr. Maisel.

DR. MAISEL: Yes.

DR. TRACY: Dr. Blumenstein.

DR. BLUMENSTEIN: Yes.

DR. TRACY: Dr. Bridges.

DR. BRIDGES: Yes.

DR. TRACY: Dr. Aziz.

DR. AZIZ: Yes.

DR. TRACY: Okay. So, 1 abstention, all others in favor.

Are there any other conditions that the panel wants to raise at this time?

DR. WHITE: We need to go back to Section 6 and talk about including details about the study population, Section 6, page 7.

DR. YANCY: Once again, we need to understand if our previous discussion was sufficient on this section, or if we have to specifically address it. My understanding is that this will be in the label, that there will be a detailed part of the label that includes the information under 6, is that correct?

DR. ZUCKERMAN: That is our intent, but you want to make it as a condition of approval?

DR. TRACY: I think that the FDA has heard the message and the sponsor has also heard the message that we want further clarification of who the patients involved in the study were. I am not sure we need to make that as a condition for approval.

DR. WHITE: And that includes like taking out references to p-values?

DR. TRACY: Yes.

Are there any other conditions then? I think we have exhausted that.

I am supposed to at this point, restate the motion at this time as to what we will next be voting on will be the initial motion, which was to approve with conditions.

The conditions that have been stated are:

that there will be a post-market surveillance study constructed to capture adverse events and outcome; that there will be added to the contraindication statement that a patient cannot receive this who cannot receive anticoagulation; that the contraindications will be modified to reflect the body size as is currently stated in the warnings No. 6; that the warnings will include a statement regarding anticoagulation and antiplatelet monitoring; that it will be mandated that some form of hands-on or site-on proctoring will take place.

Did I get them all?

DR. ZUCKERMAN: And was it only to be performed at cardiac transplant centers?

DR. TRACY: That did not pass. So, that is what we are currently voting on.

DR. YANCY: I thought it did pass.

DR. TRACY: Did I miss something?

DR. YANCY: It did pass by 1.

DR. FERGUSON: You broke the tie.

DR. TRACY: Yes, it did pass, I am sorry. This will only be implanted at centers that are performing cardiac transplantation.

DR. YANCY: And as well on the post-marketing study, I think you specifically said

from the point of entry to capture the entry characteristics, and you did not restate that just now. You said adverse events and outcomes, and I think all three things are critical.

DR. TRACY: I am hoping that the lady over there who is typing will have captured better what we originally said.

So, that is what we are current voting on. Do we have a second on that motion then?

PARTICIPANT: Second.

DR. TRACY: Dr. Weinberger.

DR. WEINBERGER: Yes.

DR. TRACY: Dr. Yancy.

DR. YANCY: Yes.

DR. TRACY: Dr. White.

DR. WHITE: Yes.

DR. TRACY: Dr. Hirshfeld.

DR. HIRSHFELD: Yes.

DR. TRACY: Dr. Kato.

DR. KATO: Yes.

DR. TRACY: Dr. Ferguson.

DR. FERGUSON: Yes.

DR. TRACY: Dr. Krucoff.

DR. KRUCOFF: No.

DR. TRACY: Dr. Maisel.

DR. MAISEL: Yes.

DR. TRACY: Dr. Blumenstein.

DR. BLUMENSTEIN: Yes.

DR. TRACY: Dr. Bridges.

DR. BRIDGES: Yes.

DR. TRACY: Dr. Aziz.

DR. AZIZ: Yes.

DR. TRACY: Okay, 10 in favor and 1 opposed.

I am supposed to give you one more chance to state your reasons for voting as you did.

Dr. Weinberger.

DR. WEINBERGER: I will be very brief. I don't think that this device meets the usual standards of scientific rigor that we normally expect from devices released to the public.

In the drug world, there is the concept of an orphan drug, and I view this device as an orphan device. It applies to a very small population and hopefully will be restricted to use by that population, and not be more widely propagated without further scientific study.

It is in that rubric that these people are dying, and really don't have any other very good alternative that I support its release.

DR. TRACY: Dr. Yancy.

DR. YANCY: My vote is yes because of my perception of the clinical need for such a platform, but it is with the understanding that there will be an ongoing effort to look at indications and outcomes.

DR. TRACY: Dr. White.

DR. WHITE: I think that reflects my views, as well.

DR. TRACY: Dr. Hirshfeld.

DR. HIRSHFELD: I have nothing to add to what Dr. Weinberger and Dr. Yancy said.

DR. TRACY: Dr. Kato.

DR. KATO: I voted to approve with conditions. I am still concerned about the proliferation of this device if it becomes very commonplace in terms of cost issues and safety issues, as well. So, we will just have to maintain close and careful follow-up.

DR. TRACY: Dr. Ferguson.

DR. FERGUSON: I think the device is filling and will fill a very important niche in patients that are otherwise going to die.

DR. TRACY: Dr. Krucoff.

DR. KRUCOFF: There is clearly a patient

population with a need and no question about the integrity and the intention of the investigators and their dedication to this and tenacity to follow through over a decade to bring it to this point.

I simply don't feel that the data give assurance that we know who we might hurt in this process, and to me, in that regard, does not support reasonable assurance of safety.

DR. TRACY: Dr. Maisel.

DR. MAISEL: I believe that in carefully selected patients that the device serves a need that is not currently filled at this time.

DR. TRACY: Dr. Blumenstein.

DR. BLUMENSTEIN: I have nothing to add to what has already been said.

DR. TRACY: Dr. Bridges.

DR. BRIDGES: Well, I think that given that this device is applied to the sickest patients, that the results are encouraging that the outcomes will equal at least, and possibly surpass, those of some of the other available devices, as well as filling a niche for patients who are not candidates for any of the currently available forms of therapy.

DR. TRACY: Dr. Aziz.

DR. AZIZ: I agree with my other colleagues. I think there are a group of patients that deserve a device like this, and this will perform I think a function for those patients. I think obviously, this and other devices do not address the chronic donor shortage, and this I think puts the patient in a better condition when he does come for transplantation.

DR. TRACY: Ms. Wells or Mr. Morton, do you have any additional comments to make at this point?

MR. MORTON: I would just briefly like to say I certainly understand the spirit of the panel's desire to have this device used at transplant centers. I think that reflects the spirit of the sponsor also, but I would urge the FDA to take the panel's recommendation and put that in the labeling rather than make that a PMA condition of approval, because I don't think it will be enforceable and I think it raises some significant commercial questions.

DR. TRACY: This concludes the report and recommendations of the panel on PMA P030011, SynCardia Systems, Inc., for the SynCardia Systems CardioWest Total Artificial Heart for

bridge-to-transplant eligible candidates at risk for imminent death from non-reversible biventricular failure.

Thank you, everybody.

Panel members, tomorrow morning at 8 o'clock in the Boardroom.

[Whereupon, at 6:00 p.m., the proceedings were recessed, to reconvene at 8:00 a.m., Thursday, March 18, 2004.]

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CERTIFICATE

I, **ALICE TOIGO,** the Official Court Reporter for Miller Reporting Company, Inc., hereby certify that I recorded the foregoing proceedings; that the proceedings have been reduced to typewriting by me, or under my direction and that the foregoing transcript is a correct and accurate record of the proceedings to the best of my knowledge, ability and belief.

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